

BY	CLASS	SUBCLASS
DRAWSMAN		

FIG. 1

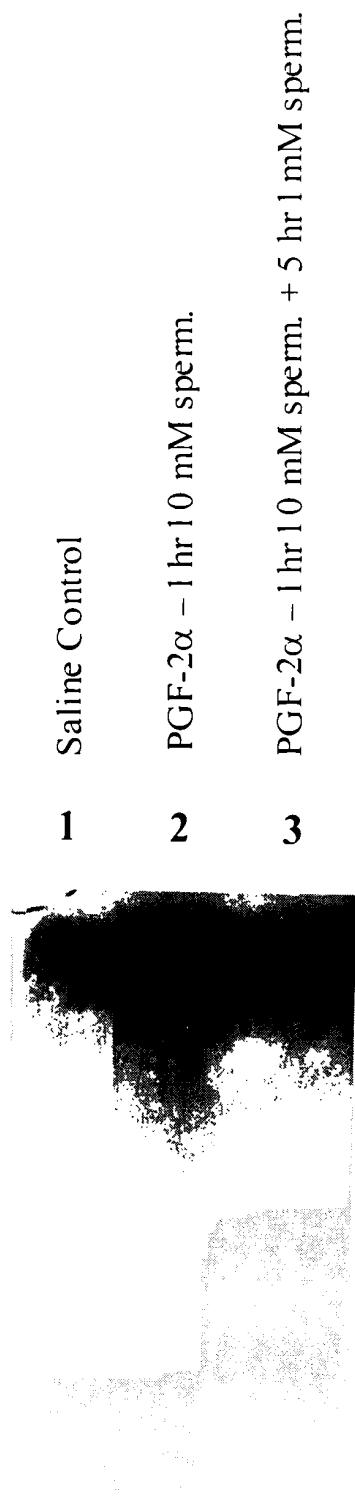
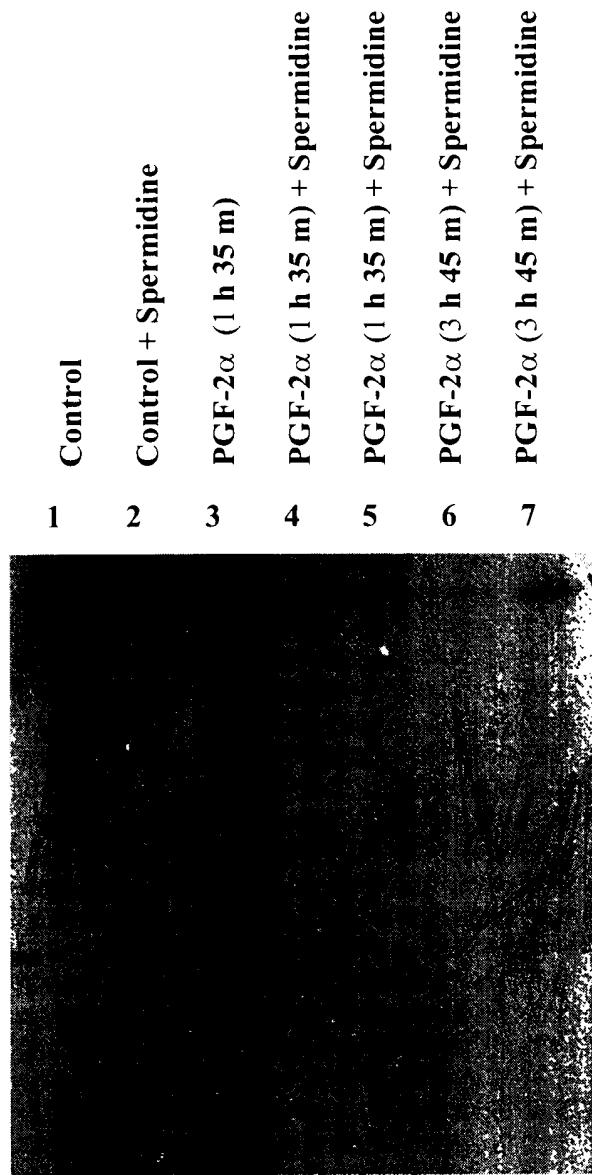


FIG. 2



TCGAAGACCGGTAAGCACGGCCATGCCAAGGTCCATCTGGTTGGTATTGATATTTTACTGGGAAGAAATAT
S K T G K H G H A K V H L V G I D I F T G K K Y
GAAGATATCTGCCCGTCGACTCATAACATGGATGTCCTAACATCAAAAGGAATGATTCCAGCTGATTGGC
E D I C P S T H N M D V P N I K R N D F Q L I G
ATCCAGGATGGGTACCTATCCCTGCTCAGGACAGTGGGGAGGTACGAGAGGACCTCGTCTGCCTGAGGGA
I Q D G Y L S L L Q D S G E V R E D L R L P E G
GACCTGGCAAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCCTGATCACAGTGCTGTCGCCATG
D L G K E I E Q K Y D C G E E I L I T V L S A M
ACAGAGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAATAACTGGCTTCCAGGGTGGCGGTGGTGGCAGCA
T E E A A V A I K A M A K
GTGATCCATGAGCCATACAGAGGCCCTCCCCAGCTCTGGCTGGCCCTTGGCTGGACTCCTATCCAATTAA
TTTGACGTTTATTGGTTTCCCTCACCCCTCAAACCTGTCGGGAGACCCCTGCCCTCACCTAGCTCCCT
TGGCCAGGCATGAGGGAGCCATGGCCTGGTGAAGCTACCTGCCTTCTCGCAGCCCTGATGGGGAAAG
GGGAGTGGGTACTGCCTGTGGTTAGGTTCCCCTCCCTTTCTTTTAATTCAATTGGAATCAGAAAG
CTGTGGATTCTGGCAAATGGCTTGTGTCCTTATCCACTCAAACCCATCTGGTCCCTGTTCCATAGT
CCTTCACCCCCAACGACCACTGACAGACTGGGGACCAGCCCCCTCCCTGCCTGTGTCCTTCCAAACCCC
TCTATAGGGGTGACAAGAAGAGGAGGGGGAGGGGACACGATCCCTCCTCAGGCATCTGGGAAGGCCTTGC
CCCCATGGGCTTACCCCTTCTGTGGCTTCTCCTGACACATTGTTAAAAATCAAACCTGAATAAAC
TACAAGTTAATATGAAAAAAAAAAAAAA
(972 NT, 109 aa)

Figure 3

CAGGTCTAGAGTTGGAATCGAAGCCTCTTAAATGGCAGATGATTGGACTTCGAGACAGGAGATGCAGGGG
M A D D L D F E T G D A G
CCTCAGCCACCTTCCAATGCAGTGCTCAGCATTACGTAAGAATGGTTTGCTGCTCAAGGGCCGGCAT
A S A T F P M Q C S A L R K N G F V V L K G R P
GTAAGATCGTCGAGATGTCTACTCGAAGACTGGCAAGCATGGCCATGCCAAGGTCCATCTGGTTGGTATTG
C K I V E M S T S K T G K H G H A K V H L V G I
ATATTTTACTGGGAAGAAATATGAAGATATCTGCCCGTCGACTCATAACATGGATGTCCCCAACATCAAAA
D I F T G K K Y E D I C P S T H N M D V P N I K
GGAATGATTCCAGCTGATTGCATCCAGGATGGTACCTATCCCTGCTCCAGGACAGTGGGAGGTACGAG
R N D F Q L I G I Q D G Y L S L L Q D S G E V R
AGGACCTTCGTCTGCCCTGAGGGAGACCTTGGCAAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCC
E D L R L P E G D L G K E I E Q K Y D C G E E I
TGATCACAGTGCTGTCCGCCATGACAGAGGAGGCAGCTGTTGCAATCAAGGCTCGAG
L I T V L S A M T E E A A V A I K A

(488 NT, 151 aa)

Figure 4

CAGGTCTAGAGTTGGAATCGAACCTCTTAAAATGGCAGATGATTGGACTTCGAGACAGGAGATGCAGGGG		
M A D D L D F E T G D A G		13
CCTCAGCCACCTTCCAATGCAGTGCTCAGCATTACGTAAGAATGGTTGTGGCTCAAGGGCCGGCAT		144
A S A T F P M Q C S A L R K N G F V V L K G R P		
GTAAGATCGTCGAGATGTCTACTCGAAGACTGGCAAGCATGGCCATGCCAAGGTCCATCTGGTTGGTATTG		
C K I V E M S T S K T G K H G H A K V H L V G I		61
ATATTTTTACTGGGAAGAAATATGAAGATATCTGCCCGTCGACTCATAACATGGATGTCCCCAACATCAAAA		
D I F T G K K Y E D I C P S T H N M D V P N I K		288
GGAATGATTCCAGCTGATTGCATCCAGGATGGTACCTATCCCTGCTCCAGGACAGTGGGAGGTACGAG		
R N D F Q L I G I Q D G Y L S L L Q D S G E V R		109
AGGACCTTCGTCTGCCCTGAGGGAGACCTTGGCAAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCC		432
E D L R L P E G D L G K E I E Q K Y D C G E E I		
TGATCACAGTGCTGTCCGCCATGACAGAGGAGGCAGCTGGCAATCAAGGCCATGGCAAAATACTGGCTT		
L I T V L S A M T E E A A V A I K A M A K *		154
CCAGGGTGGCGGTGGCAGCAGTGATCCATGAGCCTACAGAGGCCCTCCCCCAGCTGGCTGGCCCT		576
TGGCTGGACTCCTATCCAATTATTTGACGTTTATTTGGTTTCTCACCCCTCAAACGTGGGGAGA		
CCCTGCCCTCACCTAGCTCCCTGGCCAGGCATGAGGGAGCCATGGCTGGTGAAGCTACCTGCCCTTC		720
TCTCGCAGCCCTGATGGGGAAAGGGAGTGGGTACTGCCCTGTGGTTAGGTTCCCCCTCCCTTTCTTT		
TAATTCAATTGGAATCAGAAAGCTGGATTCTGCAAATGGCTTGCTCTTATCCCACCAAACCCA		864
TCTGGTCCCTGTTCTCCATAGTCCTCACCCCCAACGACCAACTGACAGACTGGGACCAGCCCCCTCCCT		
GCCTGTGTCTCTCCCAAACCCCTCTATAGGGGTGACAAGAAGAGGGAGGGGGAGGGACACGATCCCTCC		1008
TCAGGCATCTGGGAAGGCCTTGCCCCCATGGCTTACCCCTTGTGGCTTCTCCCTGACACATTGT		
TAAAAATCAAACCTGAATAAAACTACAAGTTAATATGAAAAAAAAAAAAAA		1139

(1139 NT, 154 aa)

Figure 5

rat vs. human (BC000751 or NM_001970) 96.5% identity (coding)

	10	20	30	40	50	60	
rat	ATGGCAGATGATTGGACTTCGAGACAGGGAGATGCAGGGCCTCAGCCACCTTCCAATG	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	ATGGCAGATGACTTGGACTTCGAGACAGGGAGATGCAGGGCCTCAGCCACCTTCCAATG	10	20	30	40	50	60
	70	80	90	100	110	120	
rat	CAGTGCTCAGCATTACGTAAGAATGGTTTGTGGTGCCTCAAGGGCGGCCATGTAAGATC	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	CAGTGCTCAGCATTACGTAAGAATGGTTTGTGGTGCCTCAAAGGGCGGCCATGTAAGATC	70	80	90	100	110	120
	130	140	150	160	170	180	
rat	GTCGAGATGTCTACTTCGAAGACTGGCAAGCATGGCCATGCCAACGGTCCATCTGGTTGGT	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	GTCGAGATGTCTACTTCGAAGACTGGCAAGCACGGCACGCCAACGGTCCATCTGGTTGGT	130	140	150	160	170	180
	190	200	210	220	230	240	
rat	ATTGATATTTTACTGGGAAGAAATATGAAGATATCTGCCGTGACTCATAACATGGAT	:::::::::::	:::::::::::	:::::::::::	:::::::::::	:::::::::::	
human	ATTGACATTTTACTGGGAAGAAATATGAAGATATCTGCCGTCAACTCATAATATGGAT	190	200	210	220	230	240
	250	260	270	280	290	300	
rat	GTCCCCAACATCAAAAGGAATGATTCCAGCTGATTGGCATCCAGGATGGGTACCTATCC	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	GTCCCCAACATCAAAAGGAATGACTTCCAGCTGATTGGCATCCAGGATGGGTACCTATCA	250	260	270	280	290	300
	310	320	330	340	350	360	
rat	CTGCTCCAGGACAGGGGAGGTACGAGAGGACCTCGTCTGCCTGAGGGAGACCTTGGC	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	CTGCTCCAGGACAGCGGGGAGGTACGAGAGGACCTCGTCTCCCTGAGGGAGACCTTGGC	310	320	330	340	350	360
	370	380	390	400	410	420	
rat	AAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCCTGATCACAGTGCTGTCCGCC	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::	
human	AAGGAGATTGAGCAGAAGTACGACTGTGGAGAAGAGATCCTGATCACGGTGCTGTCTGCC	370	380	390	400	410	420
	430	440	450	460			
rat	ATGACAGAGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAA	:::::::::::::::::::	:::::::::::::::::::	:::::::::::::::::::			
human	ATGACAGAGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAA	430	440	450	460		

Figure 6

rat vs. human (NM_020390) 72.5% identity (coding)

Figure 7

rat vs. mouse (BC003889) 98.3% identity (coding)

	10	20	30	40	50	60
rat	ATGGCAGATGATTGGACTTCGAGACAGGGAGATGCAGGGCCTCAGCCACCTTCCCAATG					
mouse	ATGGCAGATGATTGGACTTCGAGACAGGGAGATGCAGGGCCTCAGCCACCTTCCCAATG					
	10	20	30	40	50	60
	70	80	90	100	110	120
rat	CAGTGCTCAGCATTACGTAAGAATGGTTTGCTCAAGGGCGGCCATGTAAGATC					
mouse	CAGTGCTCAGCATTACGTAAGAATGGTTTGCTCAAGGGCGGCCATGTAAGATC					
	70	80	90	100	110	120
	130	140	150	160	170	180
rat	GTCGAGATGTCTACTTCGAAGACTGGCAAGCATGGCCATGCCAAGGTCCATCTGGTTGGT					
mouse	GTCGAGATGTCTACTTCGAAGACTGGCAAGCATGGCCATGCCAAGGTCCATCTGGTTGGC					
	130	140	150	160	170	180
	190	200	210	220	230	240
rat	ATTGATATTTTACTGGGAAGAAATATGAAGATATCTGCCCGTCGACTCATAACATGGAT					
mouse	ATTGACATTTTACTGGGAAGAAATATGAAGATATCTGCCCGTCGACTCATAATATGGAT					
	190	200	210	220	230	240
	250	260	270	280	290	300
rat	GTCCCCAACATCAAAAGGAATGATTCCAGCTGATTGGCATCCAGGATGGTACCTATCC					
mouse	GTCCCCAACATCAACCGGAATGACTTCCAGCTGATTGGCATCCAGGATGGTACCTATCC					
	250	260	270	280	290	300
	310	320	330	340	350	360
rat	CTGCTCCAGGACAGTGGGAGGTACGAGAGGACCTCGTCTGCCTGAGGGAGACCTTGGC					
mouse	CTGCTCCAGGACAGTGGGAGGTACGAGAGGACCTCGTCTGCCTGAAGGAGACCTTGGC					
	310	320	330	340	350	360
	370	380	390	400	410	420
rat	AAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCCTGATCACAGTGTGTCCGCC					
mouse	AAGGAGATTGAGCAGAAGTATGACTGTGGAGAAGAGATCCTGATCACAGTGTGTCTGCC					
	370	380	390	400	410	420
	430	440	450	460		
rat	ATGACAGAGGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAA					
mouse	ATGACAGAGGGAGGCAGCTGTTGCAATCAAGGCCATGGCAAAA					
	430	440	450	460		

Figure 8

rat vs. human (BC000751 or NM_001970) 100.0% identity

	10	20	30	40	50	60
rat	MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGK	HAKVHLVG			
	::::::::::	::::::::::	::::::::::	::::::::::	::::::::::	::::::::::
human	MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGK	HAKVHLVG			
	10	20	30	40	50	60
	70	80	90	100	110	120
rat	IDIFTGKKYEDICPSTHNMDV	PNIKR	NDFQLIGI	QDG	YLS	LLQDS
	::::::::::	::::::::::	::::::::::	::::::::::	::::::::::	::::::::::
human	IDIFTGKKYEDICPSTHNMDV	PNIKR	NDFQLIGI	QDG	YLS	LLQDS
	70	80	90	100	110	120
	130	140	150			
rat	KEIEQKYDCGEEILITV	LSAM	TEEA	AVAI	KAMAK	
	::::::::::	::::::::::	::::::::::	::::::::::	::::::::::	
human	KEIEQKYDCGEEILITV	LSAM	TEEA	AVAI	KAMAK	
	130	140	150			

Figure 9

rat vs. human (NM_020390) 82.5% identity

	10	20	30	40	50	60
rat	MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGKHGHAKVHLVG				
human	MADEIDFTTGDAGASSTYPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGKHGHAKVHLVG				
	10	20	30	40	50	60
rat	IDIFTGKKYEDICPSTHNM	DVPNIKRND	FQLIGI	QDGYLSLLQDS	GEVREDLRLPEGDLG	
human	IDIFTGKKYEDICPSTHNM	DVPNIKRND	YQLICI	QDGYLSLLTET	GEVREDLKLPEGELG	
	70	80	90	100	110	120
rat	KEIEQKYDCGEEILITVL	SAMTEEAAV	AIKAMAK			
human	KEIEGKYNAGEDVQVSVM	CAMSE	YAVAIKP-CK			
	130	140	150			
rat						
human						
	130	140	150			

Figure 10

rat vs. mouse (BC003889) 100.0% identity

	10	20	30	40	50	60
rat	MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGKHGHAKVHLVG				
mouse	MADDLDFETGDAGASATFPMQCSALRKNGFVVLKGRPCKIVEMSTS	KTGKHGHAKVHLVG				
	10	20	30	40	50	60
	70	80	90	100	110	120
rat	IDIFTGKKYEDICPSTHNM	DVPNIKRND	FQLIGI	QDGYLSLLQDS	GEVREDLRLP	EGDLG
mouse	IDIFTGKKYEDICPSTHNM	DVPNIKRND	FQLIGI	QDGYLSLLQDS	GEVREDLRLP	EGDLG
	70	80	90	100	110	120
	130	140	150			
rat	KEIEQKYDCGEEILITV	LSAMTE	EEAAV	AIKAMAK		
mouse	KEIEQKYDCGEEILITV	LSAMTE	EEAAV	AIKAMAK		
	130	140	150			

Figure 11

1

1139

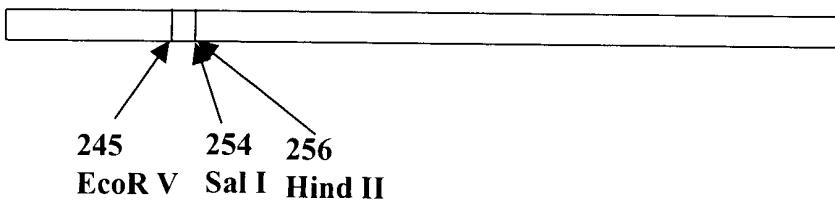


Figure 12

Southern Blot of Rat Genomic DNA

EcoRV

Rat eIF-5A 1139 bp

EcoR1 EcoRV BamH1

Full-length
rat eIF-5A
cDNA probe

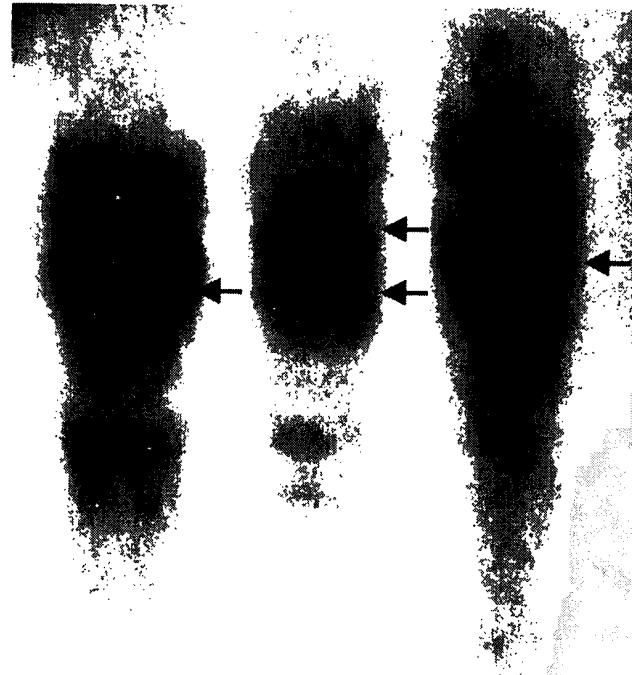


FIG. 13

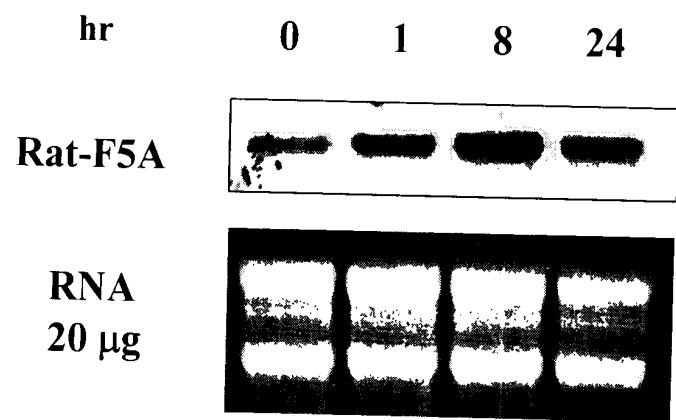


Figure 14

GCTGTGTATTATTGGGCCATAAGAACACATACCTGTGCTGAGTCCTGCACTCACAGACGGCTCACTGGGT
A V Y Y W A H K N H I P V L S P A L T D G S L G
GACATGATCTTTCCATTCCATAAAAACCCAGGCTTGGCCTGGACATCGTTGAAGACCTGCAGGCTCATC
D M I F F H S Y K N P G L V L D I V E D L R L I
AACATGCAGGCCATTTCGCCAAGCGCACTGGGATGATCATCCTGGGTGGAGGCGTGGTCAAGCACCACATC
N M Q A I F A K R T G M I I L G G G V V K H H I
GCCAATGCTAACCTCATGCGGAATGGAGCTGACTACGCTGTTATATCAACACAGCCCAGGAGTTGATGGC
A N A N L M R N G A D Y A V Y I N T A Q E F D G
TCAGACTCAGGAGCCGGCCAGATGAGGCTGTCTCTGGGCAAGATCCGGATGGATGCACAGCCAGTAAAG
S D S G A R P D E A V S W G K I R M D A Q P V K
GTCTATGCTGATGCATCTCTGGTTTCCCTGCTGGCTGAGACATTGCCAAAAGGCAGATGCCCTTC
V Y A D A S L V F P L L V A E T F A Q K A D A F
AGAGCTGAGAAGAATGAGGACT**T**GAGCAGATGGTAAAGACGGAGGCTTCTGCCACACCTTATTATT
R A E K N E D
GCATACCAACCCCTCTGGGCCCTCCTGGTCAGCAGCATCTGAGAATAATGGCTTTGTTGGTT
CTGTAAAAAAAGGACTTAAAAAA

(606 NT, 151 aa)

Figure 15

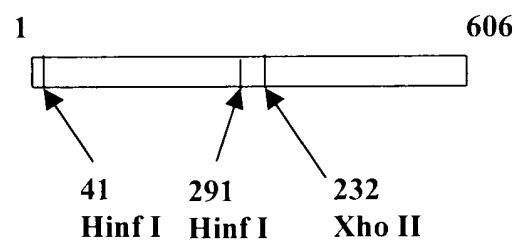


Figure 16

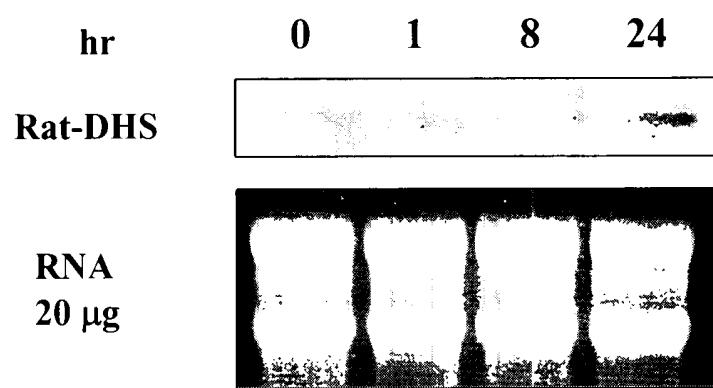


Figure 17

rat vs. human (BC000333) 87.4% identity (coding)

rat	GCTGTGTATTATTGGGCCATAAGAACACATACCTGTGCTGAGTCCTGCACTCACAGAC	10	20	30	40	50	60
human	TCCGTGTATTACTGGGCCAGAACACATCCCTGTGTTAGTCCCGACTTACAGAC	10	20	30	40	50	60
rat	GGCTCACTGGGTGACATGATCTTTCCATTCTATAAAAACCCAGGCTGGTCTGGAC	70	80	90	100	110	120
human	GGCTCGCTGGCGACATGATCTTCTTCCATTCTACAAAGAACCCGGGCTGGTCTGGAC	70	80	90	100	110	120
rat	ATCGTTGAAGACCTGCGGCTCATCAACATGCAGGCCATTTCGCCAAGCGCACTGGGATG	130	140	150	160	170	180
human	ATCGTTGAGGACCTGAGGCTCATCAACACAGGCCATTTGCCAAGTGCAGTGGGATG	130	140	150	160	170	180
rat	ATCATCTGGTGGAGGCGTGGTCAAGCACCACATGCCAATGCTAACCTCATGCGGAAT	190	200	210	220	230	240
human	ATCATTCTGGCGGGGGCGTGGTCAAGCACCACATTGCCAATGCCAACCTCATGCGGAAC	190	200	210	220	230	240
rat	GGAGCTGACTACGCTGTTATATCAACACAGCCCAGGAGTTGATGGCTCAGACTCAGGA	250	260	270	280	290	300
human	GGGGCCGACTACGCTGTTACATCAACACAGCCCAGGAGTTGATGGCTCTGACTCAGGT	250	260	270	280	290	300
rat	GCCCCGCCAGATGAGGCTGTCTCCTGGGGCAAGATCCGGATGGATGCACAGCCAGTAAAG	310	320	330	340	350	360
human	GCCCCGACCAGACGAGGCTGTCTCCTGGGGCAAGATCCGGTGGATGCACAGCCCGTCAAG	310	320	330	340	350	360
rat	GTCTATGCTGATGCATCTCTGGTTTCCCTTGCTGGTGGCTGAGACATTGCCAAAAG	370	380	390	400	410	420
human	GTCTATGCTGACGCCTCCCTGGTCTTCCCCCTGTTGGCTGAAACCTTGCCCAGAAG	370	380	390	400	410	420
rat	GCAGATGCCTTCAGAGCTGAGAAGAACGAGGAC	430	440	450			
human	ATGGATGCCTTCATGCATGAGAAGAACGAGGAC	430	440	450			

Figure 18

FIG. 19

Hours After PGF-2 α Treatment

0 1 24





Figure 20

FIG. 21

Southern Blot of Rat Genomic DNA

**Partial rat DHS
cDNA probe**

EcoRV

